Application No. 10/735,554

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1.   (Currently Amended)   A mobile device, comprising:

a motion detector for detecting motion of the mobile device, wherein the motion detector generates a Boolean value indicating the mobile device is moving if the detected motion is greater than a threshold amount;

an orientation detector for determining orientation of the mobile device;

a memory storing wireless signal strength calibration data comprising a list of wireless signal strengths, orientations and known locationsa memory for storing wireless signal strength calibration data comprising a list of wireless signal strengths and known locations;

an antenna for receiving network radio signals from wireless base stations transmitting in an area;

a location detection module for measuring a wireless signal strength of any received network radio signals from the antenna and for determining the location of the mobile device using measured wireless signal strength with reference to the wireless signal strength calibration data, motion detection data and orientation data, wherein if the mobile device is moving, the location detection module determines location of the mobile device with reference to instantaneous wireless signal strength; and

wherein if the mobile device is not moving, the location detection module determines location of the mobile device with reference to statistically corrected measured wireless signal strength received from a location correction module, for applying a statistical correction to the measured wireless signal strength determined received by the location detection module when the motion detector detects that he mobile device is moving less than a threshold amount;

wherein the location module first considers measured wireless signal strengths taken at

2

Application No. 10/735,554

the same orientation as determined by the orientation detector for determining location of the mobile device and if no location is determined considers measured wireless signal strengths at other orientations.

2. (Original) The mobile device of claim 1, wherein the statistical correction comprises calculating from a moving window of N signal strength samples, wherein M samples of the N samples have a measured signal strength above a predetermined value, from a minimum of X wireless base stations, an average value and standard deviation of the signal strength for each of the X wireless base stations.

3. (Original) The mobile device of claim 1, wherein the motion detector detects direction of motion; and
wherein the location detection module, responsive to the detected direction of motion, predicts the mobile device's next location.

4. (Original) The mobile device of claim 3, wherein the motion detector detects velocity of the mobile device; and
wherein the location detection module, responsive to the detected velocity of motion, predicts the mobile device's next location.

5. (Original) The mobile device of claim 3, wherein the location detection module rejects locations not in the direction of motion.

6. (Currently Amended) A method for determining a location of a mobile device, comprising:
storing wireless signal strength calibration data comprising a list of wireless signal strengths, orientations and known locations:

3

Application No. 10/735,554

receiving network radio signals from wireless base stations transmitting in an area;

measuring a wireless signal strength of any received network radio signals;

detecting motion of the mobile device, wherein a Boolean value indicating the mobile device is moving is generated if the detected motion is greater than a threshold amount;

determining orientation of the mobile device;

determining the location of the mobile device using measured wireless signal strength with reference to the wireless signal strength calibration data, motion detection data and orientation data;

wherein if the mobile device is moving, determining location of the mobile device with reference to instantaneous wireless signal strength; and

wherein if the mobile device is not moving, applying a statistical correction to the measured wireless signal strength ~~when the mobile device is moving less than a threshold amount~~ and determining location of the mobile device with reference to statistically corrected measured wireless signal strength; ~~and~~

~~determining the location of the mobile device with reference to wireless signal strength calibration data comprising a list of wireless signal strengths and known locations;~~

considering measured wireless signal strengths taken at the same orientation as the determined orientation and if no location is determined considering measured wireless signal strengths at other orientations.

7. (Original) The method of claim 6, wherein the step of applying a statistical correction comprises calculating from a moving window of N signal strength samples, wherein M samples of the N samples have a measured signal strength above a predetermined value, from a minimum of X wireless base stations, an average value and standard deviation of the signal strength for each of the X wireless base stations.

8. (Original) The method of claim 6, further comprising detecting direction of

4

Application No. 10/735,554

motion of the mobile device; and

responsive to the detected direction of motion, predicting the mobile device's next location.

9. (Original) The method of claim 8, further comprising detecting velocity of the mobile device; and

responsive to the detected velocity of motion, predicting the mobile device's next location. .

10. (Original) The method of claim 8, further comprising rejecting locations not in the direction of motion.

Claims 11 - 20 (Cancelled).

5